

Applicant : Joe Cagnelli et al
Appl. No : 09/900,468
Filed : July 9, 2001
Title : MANIFOLD FOR A FUEL CELL SYSTEM
Grp./A.U. : 1745
Examiner : Initial Patent Examination Division
Docket No. : 9351-62 HSF

BY FACSIMILE

Honorable Commissioner of Patents
Washington, D.C
20231

February 19, 2002

AMENDMENT

Sir:

This is in response to the Office Action mailed December 19, 2001. Please amend this application as follows:

In the specification:

Please delete paragraphs 35-42 inclusive at pages 8-9.

Paragraph 59 has been amended as follows:

[0059] For simplicity and brevity, the description of these components is not repeated. In this embodiment, the manifold assembly 70 includes four layers of separated plates, namely a front plate 60, a first middle plate 50, a second middle plate 30 and a back plate 20. The back plate 20 is formed so that the fuel cell stack 10 can abut against it. The back plate 20, as in the first embodiment, has six ports provided therein, and is the same as that shown in Figures 4a and 4b. In this embodiment, the ports are in the form of six through holes 21 to 26 which penetrate the back plate 20 in the direction of thickness. For illustration only, in this embodiment, the six through holes 21 to 26 penetrate the back plate 20. The six through holes 21 to 26 are provided in two rows each having three holes arranged in alignment in vertical direction. Each of the three holes in each row is in alignment with the corresponding hole in the other row in

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horizontal direction. These through holes 21 to 26 are adapted to connect to the three inlets 11, 12, 16 and the three outlets 13, 14, 15 of the fuel cell stack 10 so that the fuel cell stack 10 can be mounted on the back plate 20 and the process gases and coolant can be supplied to the fuel cell stack 10 via the fluid channels that will be described below. Conventional necessary sealing means and clamping devices can be provided around the six through holes 21 to 26 to ensure proper delivery and prevent leakage of process gases and coolant. It should be mentioned that in this embodiment, for illustration purposes only, the fuel cell stack 10 has three ports near one end and other three ports near the other end thereof, which is a typical arrangement in fuel cell stacks, particularly proton exchange membrane fuel cell stacks. Therefore the back plate 20 is configured accordingly. Of course, the actual number and arrangement of through holes can be different.

Please delete paragraphs 65-66 inclusive at pages 22-23.

Please delete Figures 9a and 9b.

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REMARKS

Without prejudice, amendments are being entered to respond to the Notice of Omitted Items mailed December 19, 2001. Solely to facilitate further prosecution, applicant is effectively electing option (iii) detailed in the U.S.P.T.O. letter. In effect, references to Figures 9, 10, 11 and 12 are being deleted.

The reference to Figures 9a and 9b in paragraph 59 is being replaced by a reference to Figures 4a and 4b. It is noted that this sentence, as originally worded indicated that back plate 20 is the same as in the first embodiment and uses the same reference numeral. The simple structure of the back plate 20 is already shown in Figure 5. No new matter has been added.

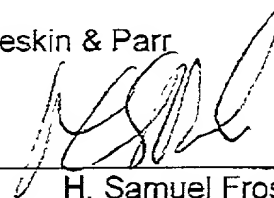
Instructions are given above to delete Figures 9a and 9b. The notice indicates that these were not received. However, our file copy of the application includes ten sheets of drawings, including Figures 9a and 9b, and an acknowledgement card from your office acknowledged receipt of ten drawing sheets. For simplicity and as these Figures are duplicates of Figures 4a and 4b, all reference to them is being deleted.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

Respectfully submitted,

Bereskin & Parr

By



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Appl. No. 09/952,643

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the specification:

Please delete paragraphs 35-42 inclusive at pages 8-9.

Please amend paragraph 59 on pages 18 and 19 as follows:

[0059] For simplicity and brevity, the description of these components is not repeated. In this embodiment, the manifold assembly 70 includes four layers of separated plates, namely a front plate 60, a first middle plate 50, a second middle plate 30 and a back plate 20. The back plate 20 is formed so that the fuel cell stack 10 can abut against it. The back plate 20, as in the first embodiment, has six ports provided therein, ~~as can be best seen in Figures 9a and 9b~~ and is the same as that shown in Figures 4a and 4b. In this embodiment, the ports are in the form of six through holes 21 to 26 which penetrate the back plate 20 in the direction of thickness. For illustration only, in this embodiment, the six through holes 21 to 26 penetrate the back plate 20. The six through holes 21 to 26 are provided in two rows each having three holes arranged in alignment in vertical direction. Each of the three holes in each row is in alignment with the corresponding hole in the other row in horizontal direction. These through holes 21 to 26 are adapted to connect to the three inlets 11, 12, 16 and the three outlets 13, 14, 15 of the fuel cell stack 10 so that the fuel cell stack 10 can be mounted on the back plate 20 and the process gases and coolant can be supplied to the fuel cell stack 10 via the fluid channels that will be described below. Conventional necessary sealing means and clamping devices can be provided around the six through holes 21 to 26 to ensure proper delivery and prevent leakage of process gases and coolant. It should be mentioned that in this embodiment, for illustration purposes only, the fuel cell stack 10 has three ports near one end and other three ports near the other end thereof, which is a typical arrangement in fuel cell stacks, particularly proton exchange membrane fuel cell stacks. Therefore the back plate 20 is configured

accordingly. Of course, the actual number and arrangement of through holes can be different.

Please delete paragraphs 65 and 66 on pages 22-23.

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